

MTI Recommendation Explanation User's Manual

The MTI Recommendation Explanation (MTI-RE) page was designed to provide the details behind all of the recommendations MTI makes for a given citation. We also wanted to provide an environment where the person using the MTI-RE would have access to all of the available resources they might need in evaluating the MTI recommendations.

In some cases, we have more detailed information to display than others because the MetaMap method provides a much richer set of details about where a recommendation came from and why MTI recommended the term than from the PubMed Related Citations method.

Highlights of the new MTI-RE web page include:

- All words and phrases in the citation that participated in the MTI recommendations are highlighted
- Access to MeSH Browser information on all MTI recommendations
- Access to all PubMed Related Citations for the citation
- Detailed information on why MTI recommended the terms that it did
- Information on when MTI processed the citation, what version of MeSH was used, and what version of PubMed Related Citations was used.

For PubMed Related Citations, we are now using two different methods of generating the list of related articles. MTI has traditionally used the “TexTool Related Articles” method because it has the ability to handle a wider variety of input formats, but we are now moving to using the precomputed Entrez/PubMed Related Articles links since these are what an Indexer would normally see in the DCMS “Related Articles” tab.

1. **PubMed Related Articles** – This uses the already computed Entrez/PubMed Related Articles links to determine what citations to pull the MeSH Heading information from.
2. **TexTool Related Articles** – This uses the TexTool program to determine the list of nearest related articles for the given citation. This method provides a similar list as the precomputed list from Entrez/PubMed, but has a bit more flexibility which MTI needs in specific cases. If a given article to be processed for the DCMS system does not contain a precomputed list of Entrez/PubMed Related Articles, we will use the TexTool program to generate the list.

MTI Recommendation Explanation User's Manual

The following screen shot (Figure 1) shows what the MTI-RE looks like when it starts up. The top of the page details when the citation was processed by MTI, what version of MeSH was used, and what version of PubMed Related Citations (PRC) was used. Below this, on the left-hand side are all of the MTI recommendations with the **CheckTags** at the top highlighted in a tan color, and the actual citation on the right-hand side. The citation has all of the words and phrases involved in the MTI recommendations highlighted using a **brown coloring and underlining**. At the bottom of the page is where the detailed explanation information will appear.

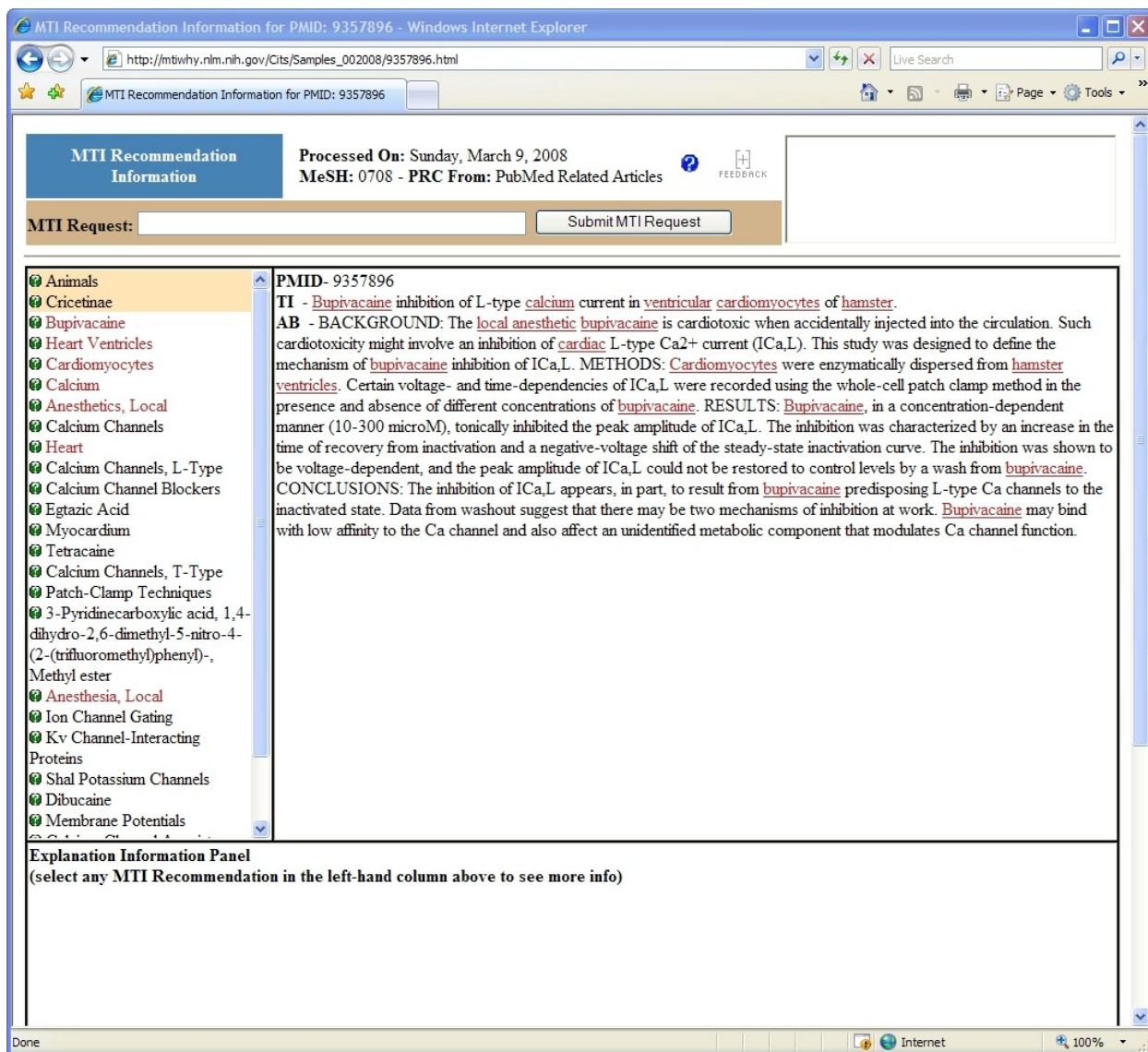



Figure 1: Initial MTI Recommendation Explanation Screen

MTI Recommendation Explanation User's Manual

What can you do from the startup screen?

1. Selecting the blue question mark  from the top of the web page will open this document.
2. Rolling the mouse over any of the words in the citation that are highlighted by the brown color and underlining (e.g., highlighted text) will show what MTI recommendations were made using the word by displaying a bubble above the word with the MTI recommendations listed and also highlighting the appropriate MTI recommendations themselves in the panel to the left of the citation (see Figure 2).

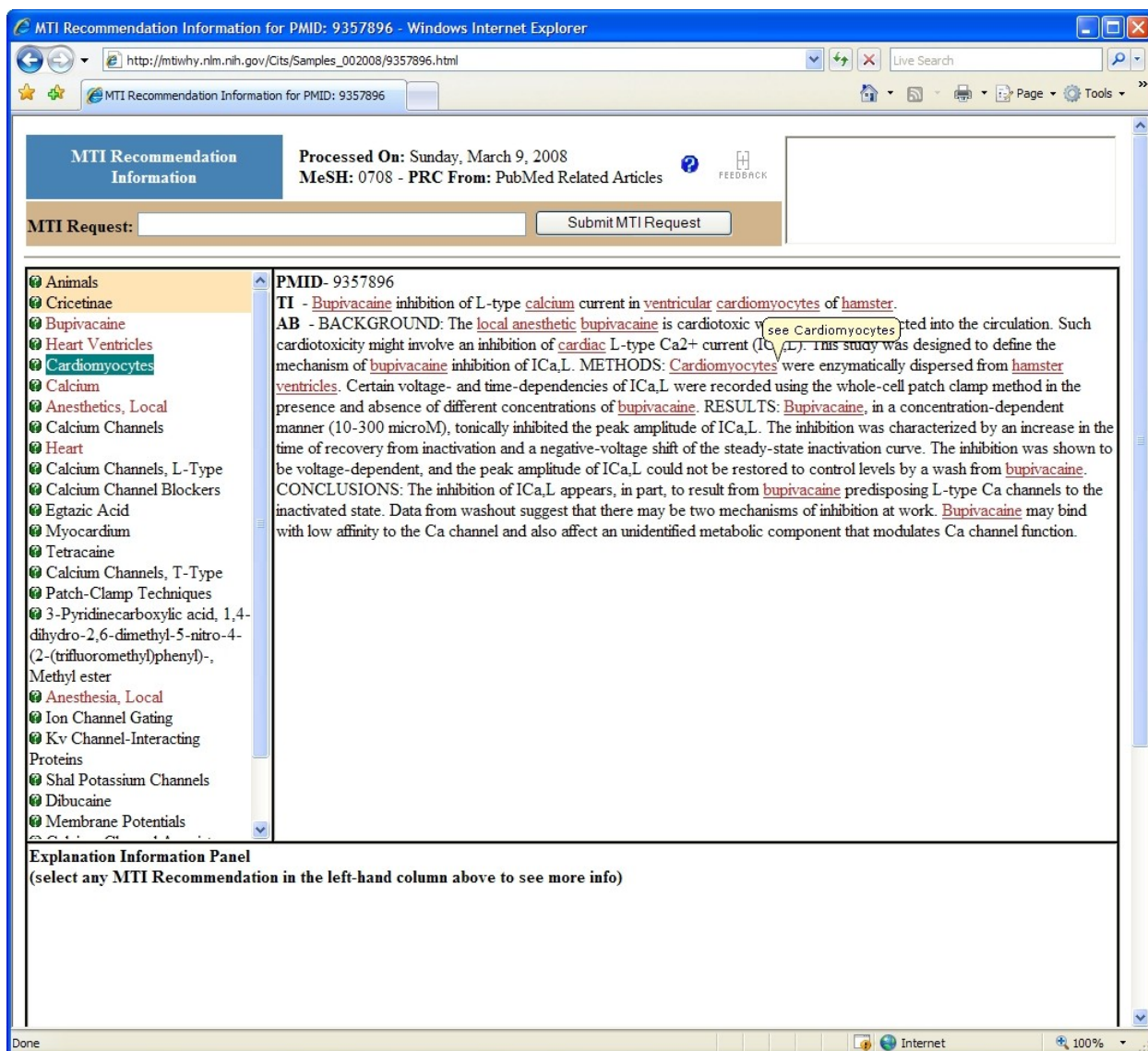


Figure 2: Text Word Mouse Over Example

MTI Recommendation Explanation User's Manual

- Rolling the mouse over any of the MTI recommendations will highlight the MeSH term and also highlight all of the places in the text that caused this MeSH term to be recommended (see Figure 3).

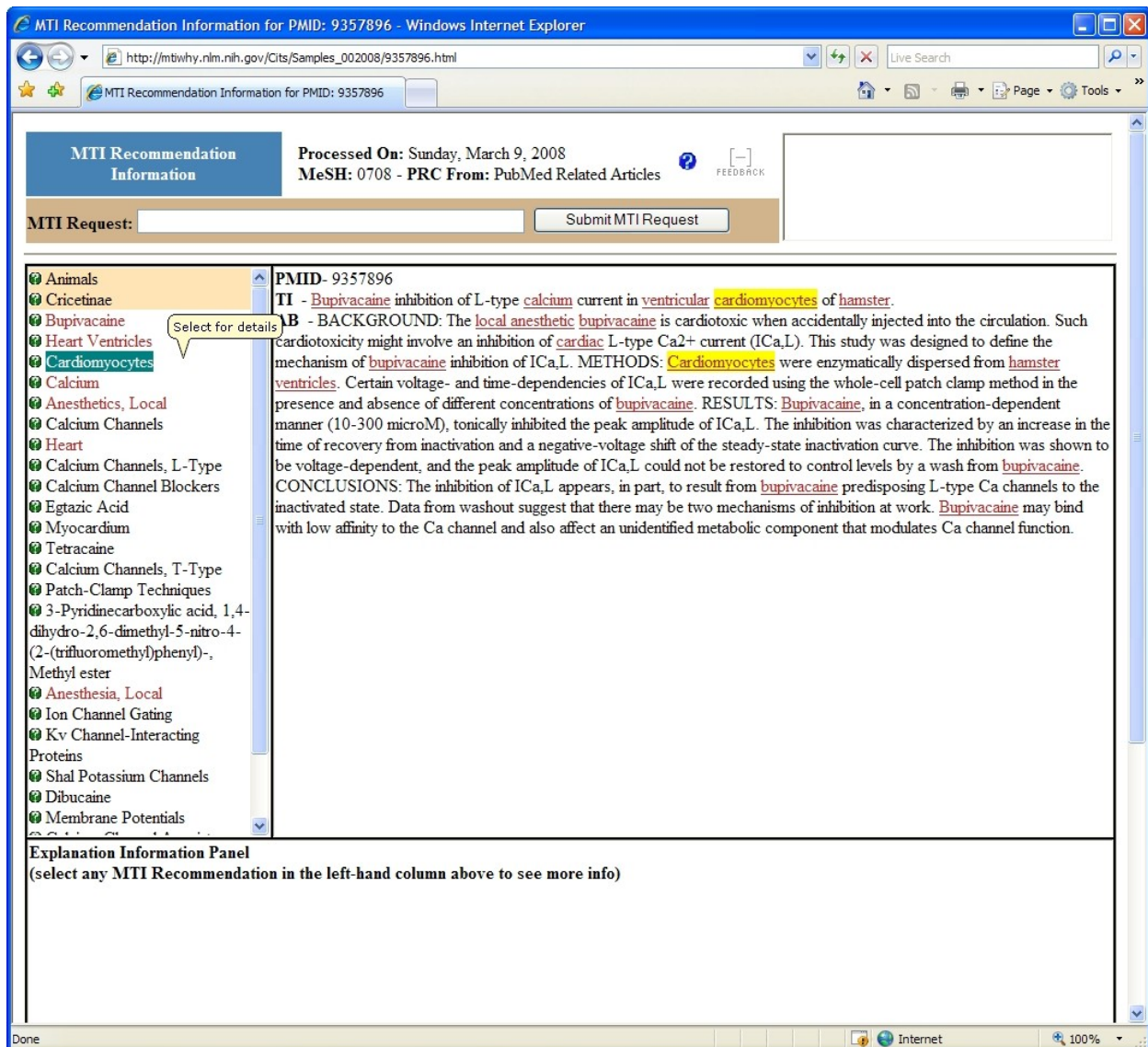



Figure 3: MTI Recommendation Mouse-Over Example

MTI Recommendation Explanation User's Manual

4. Selecting the question mark  next to any of the MTI recommendations will popup a small window containing the MeSH Browser with the MeSH term that MTI recommended loaded. You can repeatedly do this and the same window will be used – just the information inside the window will change (see Figure 4).

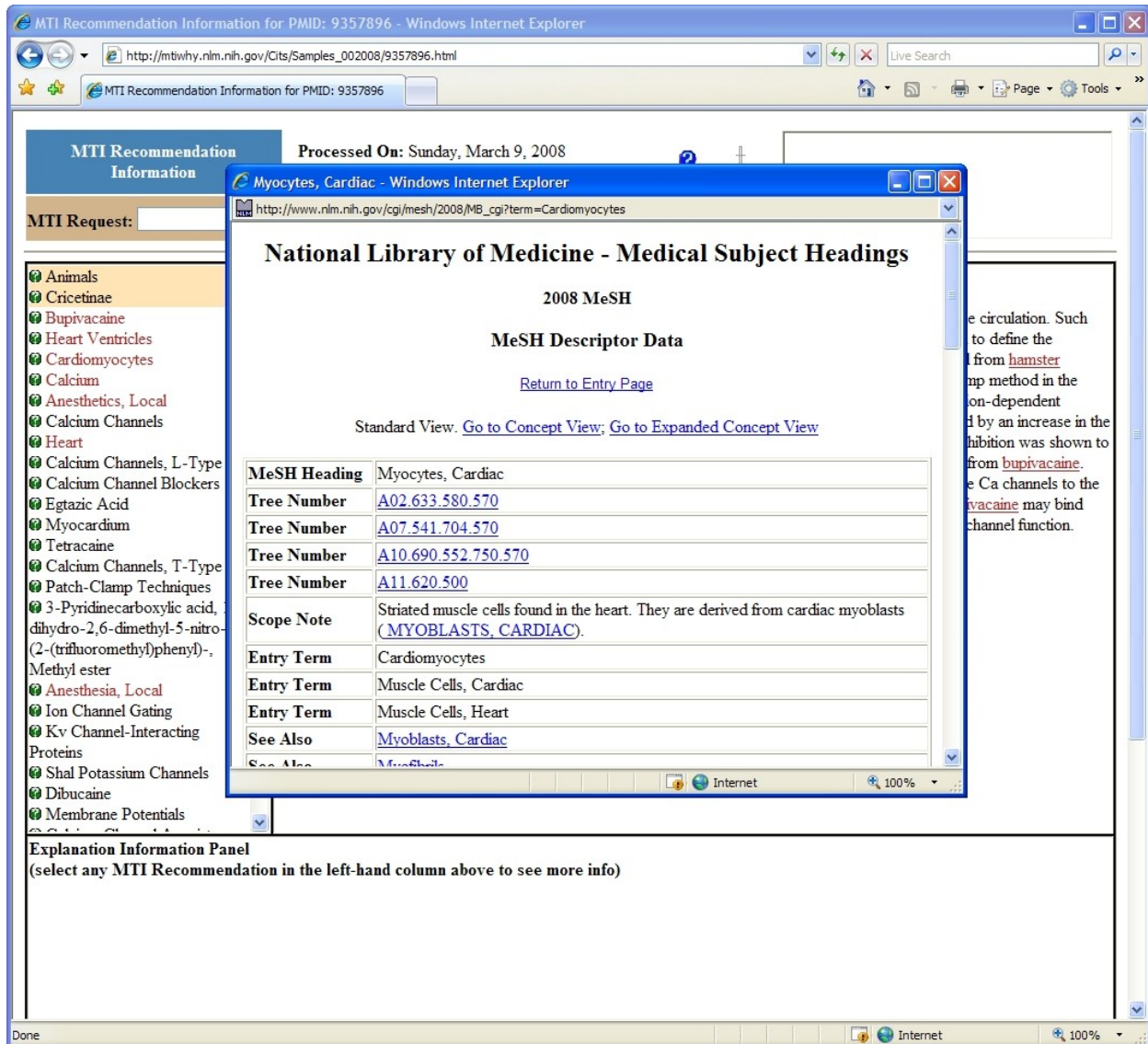


Figure 4: MeSH Browser with "Pharmaceutical Preparations" loaded

MTI Recommendation Explanation User's Manual

5. Selecting any of the MTI recommendations will highlight all of the words/phrases in the body of the citation that participated in MTI making the recommendation and display all of the detailed background information for the MTI recommendation in the bottom "Explanation Information Panel" (see Figure 5). The next section of this document "MTI Detailed Background Information" describes what types of background information are available.

MTI Recommendation Information for PMID: 9357896 - Windows Internet Explorer

http://mtiwhy.nlm.nih.gov/Cits/Samples_002008/9357896.html

MTI Recommendation Information for PMID: 9357896

Processed On: Sunday, March 9, 2008
MeSH: 0708 - PRC From: PubMed Related Articles

MTI Request: Submit MTI Request

MTI Recommendations:

- Animals
- Crice
- Bupivacaine
- Heart Ventricles**
- Cardiomyocytes
- Calcium
- Anesthetics, Local
- Calcium Channels
- Heart
- Calcium Channels, L-Type
- Calcium Channel Blockers
- Egtazic Acid
- Myocardium
- Tetracaine
- Calcium Channels, T-Type
- Patch-Clamp Techniques
- 3-Pyridinecarboxylic acid, 1,4-dihydro-2,6-dimethyl-5-nitro-4-(2-(trifluoromethyl)phenyl)-, Methyl ester
- Anesthesia, Local
- Ion Channel Gating
- Kv Channel-Interacting
- Proteins
- Shal Potassium Channels
- Dibucaine
- Membrane Potentials

PMID- 9357896

TI - Bupivacaine inhibition of L-type calcium current in ventricular cardiomyocytes of hamster.

AB - BACKGROUND: The local anesthetic bupivacaine is cardiotoxic when accidentally injected into the circulation. Such cardiotoxicity might involve an inhibition of cardiac L-type Ca²⁺ current (I_{Ca,L}). This study was designed to define the mechanism of bupivacaine inhibition of I_{Ca,L}. **METHODS:** Cardiomyocytes were enzymatically dispersed from hamster ventricles. Certain voltage- and time-dependencies of I_{Ca,L} were recorded using the whole-cell patch clamp method in the presence and absence of different concentrations of bupivacaine. **RESULTS:** Bupivacaine, in a concentration-dependent manner (10-300 microM), tonically inhibited the peak amplitude of I_{Ca,L}. The inhibition was characterized by an increase in the time of recovery from inactivation and a negative-voltage shift of the steady-state inactivation curve. The inhibition was shown to be voltage-dependent, and the peak amplitude of I_{Ca,L} could not be restored to control levels by a wash from bupivacaine. **CONCLUSIONS:** The inhibition of I_{Ca,L} appears, in part, to result from bupivacaine predisposing L-type Ca channels to the inactivated state. Data from washout suggest that there may be two mechanisms of inhibition at work. Bupivacaine may bind with low affinity to the Ca channel and also affect an unidentified metabolic component that modulates Ca channel function.

Heart Ventricles	Found in 5 of top 10 PubMed Related Citations
Type: MeSH Heading (MH)	9242181 [PRC Rank: 3 Score: 43.04/100]
Recommended by: Both MetaMap and PubMed Related Citations	Inhibition of L-type Ca ²⁺ channel current in rat ventricular myocytes by terfenadine. Circ Res. 1997 Aug;81(2):202-10.
Location: Found in Both Title and Abstract	
MTI Triggering Information:	11506128 [PRC Rank: 4 Score: 42.78/100]
The following words/phrases were used from the text:	Differential modulation of the cardiac L- and T-type calcium channel currents by isoflurane. Anesthesiology. 2001 Aug;95(2):515-24.
-- "ventricles"	

Figure 5: MTI Recommendation Selection

MTI Detailed Background Information:

When you select any of the MTI recommendations you will see the detailed background information for the word. The left-hand side of the bottom panel (see Figure 6) contains all of the background information for why MTI recommended this particular term. The right-hand side of the bottom panel (see Figure 7) contains a list of the PubMed Related Citations that participated in this particular MTI recommendation.

The MTI recommendation background information (left-hand side) will contain:

- What type of MeSH term is this (MeSH Heading, CheckTag, MeSH Entry Term, Supplemental Concept, or a MeSH Heading Mapped To)
- Which methods recommended this term (MetaMap, PubMed Related Citations, or both)
- Where the text that triggered the recommendation was found (Title, Abstract, or both). Note that only the MetaMap method contains this information, so if a term is recommended only by PubMed Related Citations, we do not have any location information.
- MTI Triggering Information will then show all of the words or phrases from the text that contributed to MTI recommending this term.

Treatment Outcome
Type: MeSH Heading (MH)
Recommended by: Both MetaMap and PubMed Related Citations
Location: Found in Abstract Only
MTI Triggering Information:
The following word/phrase was used from the text:
-- "treatment outcome"
Details:
Text "treatment outcome"
--> MetaMap Mapped to: "Treatment outcome"
--> Restrict to MeSH gave us: "Treatment Outcome"

Figure 6: Left-hand side - MTI Background Information

- If you are really interested in how MTI recommended a specific term, then the “Details” section will show the logic flow from identifying the text in the article, matching (mapping) the text to the corresponding UMLS Concept(s), converting the UMLS Concept into a MeSH term (Restrict to MeSH), and then in some cases, MTI provides the MeSH Entry Term instead of the MeSH term because the MeSH Entry Term was actually shown in the text.
- You may also see the term “Ambiguously MetaMap Mapped to:” in the Details section. This simply means that MetaMap found more than one UMLS concept that matched (mapped) to the text – when this occurs, it is known as ambiguity. For example, the text “cold” maps to three different UMLS concepts in the 2007 UMLS:
 - Cold (cold temperature) [Natural Phenomenon or Process],
 - Cold (Common Cold) [Disease or Syndrome], and
 - Cold (Cold Sensation) [Physiologic Function].

MTI Recommendation Explanation User's Manual

PubMed Related Citations:

The right-hand side of the bottom panel (see Figure 7) contains a list of the PubMed Related Citations that participated in this particular MTI recommendation. This section contains all of the information pertaining to the PubMed Related Citations including:

- Number of related citations participating out of the top 10 we use for MTI (in this example, we have 5 of the top 10 participating).
- PMID of the related citation. NOTE: Selecting the PMID will popup a new window containing the Entrez/PubMed entry for the PMID in "Citation" view which shows the abstract information as well as the MeSH Indexing (see Figure 8).
- PRC Rank – This is the ranking order for the given related article ranging from 1 to 10 with 1 being the highest.
- Score – Score that this related article received out of 100 (36.58/100) is a score of 36.58.
- Title of the related article followed by the Journal reference information for the article.

Found in 5 of top 10 PubMed Related Citations	
15191617	[PRC Rank: 1 Score: 36.58/100]
Three year naturalistic outcome study of panic disorder patients treated with paroxetine. BMC Psychiatry. 2004 Jun 11;4:16.	
12832239	[PRC Rank: 2 Score: 33.04/100]
Impact of antidepressant discontinuation after acute bipolar depression remission on rates of depressive relapse at 1-year follow-up. Am J Psychiatry. 2003 Jul;160(7):1252-62.	
9721829	[PRC Rank: 5 Score: 32.52/100]
Cognitive-behavioral group therapy for panic disorder in the general clinical setting: a naturalistic study with 1-year follow-up. J Clin Psychiatry. 1998 Aug;59(8):437-42; quiz 443.	
12466626	[PRC Rank: 8 Score: 21.15/100]

Figure 7: Right-hand side - PubMed Related Citation References

MTI Recommendation Explanation User's Manual

Three year naturalistic outcome study of panic dis... [BMC Psychiatry. 2004] - PubMed Result - Windows Internet Explorer

http://www.ncbi.nlm.nih.gov/sites/entrez?db=pubmed&cmd=Retrieve&opt=Citation&list_uids=15191617

Three year naturalistic outcome study of ...

1: BMC Psychiatry. 2004 Jun 11;4:16.

Full text free on... **BioMed Central** **FREE full text article** in PubMed Central

Three year naturalistic outcome study of panic disorder patients treated with paroxetine.

Dannon PN, Iancu I, Cohen A, Lowengrub K, Grunhaus L, Kotler M.

The Rehovot Community Mental Health Care & Rehabilitation Center affiliated to Tel Aviv University, 76449, Israel. pinhasd@post.tau.ac.il

BACKGROUND: This naturalistic open label follow-up study had three objectives: 1) To observe the course of illness in Panic Disorder patients receiving long-term versus intermediate-term paroxetine treatment, 2) To compare the relapse rates and side-effect profile after long-term paroxetine treatment between patients with Panic Disorder and Panic Disorder with Agoraphobia, 3) To observe paroxetine's tolerability over a 24 month period. **METHODS:** 143 patients with panic disorder (PD), with or without agoraphobia, successfully finished a short-term (ie 12 week) trial of paroxetine treatment. All patients then continued to receive paroxetine maintenance therapy for a total of 12 months. At the end of this period, 72 of the patients chose to discontinue paroxetine pharmacotherapy and agreed to be monitored throughout a one year discontinuation follow-up phase. The remaining 71 patients continued on paroxetine for an additional 12 months and then were monitored, as in the first group, for another year while medication-free. The primary limitation of our study is that the subgroups of patients receiving 12 versus 24 months of maintenance paroxetine therapy were selected according to individual patient preference and therefore were not assigned in a randomized manner. **RESULTS:** Only 21 of 143 patients (14%) relapsed during the one year medication discontinuation follow-up phase. There were no significant differences in relapse rates between the patients who received intermediate-term (up to 12 months) paroxetine and those who chose the long-term course (24 month paroxetine treatment). 43 patients (30.1%) reported sexual dysfunction. The patients exhibited an average weight gain of 5.06 kg. All patients who eventually relapsed demonstrated significantly greater weight increase (7.3 kg) during the treatment phase. **CONCLUSIONS:** The extension of paroxetine maintenance treatment from 12 to 24 months did not seem to further decrease the risk of relapse after medication discontinuation. Twenty-four month paroxetine treatment is accompanied by sexual side effects and weight gain similar to those observed in twelve month treatment.

Publication Types:

- Clinical Trial
- Comparative Study

MeSH Terms:

- Adult
- Agoraphobia/drug therapy
- Agoraphobia/psychology
- Drug Administration Schedule
- Female
- Follow-Up Studies

MTI Recommendation Information

Type: MeSH Heading (MH)
Recommended by: Both MeSH and MTI
Location: Found in Abstracts

MTI Triggering Information

The following word/phrase
-- "treatment outcome"

Details:

Entrez PubMed
Overview
Help/FAQ
Tutorials
New/Noteworthy
E-Utilities

PubMed Services
Journals Database
MeSH Database
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
Special Queries
LinkOut
My NCBI

Related Resources
Order Documents
NLM Mobile
NLM Catalog
NLM Gateway
TOXNET
Consumer Health
Clinical Alerts
ClinicalTrials.gov
PubMed Central

Humans
Panic Disorder
Product-Limit Method
Agoraphobia
Panic
Cognitive Therapy
Recurrence
Treatment Outcome
Antidepressive Agents
Pharmaceutical Preparations
Anxiety Disorders
Follow-Up Studies
Alprazolam
Biomedical Research
Paroxetine
Depressive Disorder
Imipramine
Longitudinal Studies
Anti-Anxiety Agents
Antidepressive Agents, Tricyclic
Serotonin Uptake Inhibitors
Psychotherapy, Group
Population Groups
Prospective Studies
Tamoxifen
Patient Dropouts

Figure 8: Entrez/PubMed in Citation View for PMID 15191617